

The author concludes with the following recapitulation :—1. The nucleus of the corpuscle of the blood admits of being traced into the pus-globule. 2. The various structures arise out of corpuscles having the same appearance, form, and size as corpuscles of the blood. 3. The corpuscles having this appearance, and giving origin to structures, are propagated by division of their nuclei. 4. The corpuscles of the blood, also, are propagated by division of their nuclei. 5. The minuteness of the young blood-corpuscles is sometimes extreme ; and they are to be found in parts usually considered as not being permeable by red blood.

In a postscript, the author adds, that blood found in the heart immediately after death by bleeding, presents incessant alterations in the position of its corpuscles. Among these, when a single corpuscle is examined very attentively, it is seen to change its form ; and the author is disposed to think it is this change of form that produces the alterations in position. The changes in form are slight, compared with those previously described by him as observed in blood elsewhere, and are not seen without close attention. The motions resemble those called molecular ; and in the minutest corpuscles, which are mere points, nothing besides molecular motion can be discerned. It may be a question, the author thinks, whether molecular motion differs in its nature from the motion of the larger corpuscles just referred to. The division of the blood-corpuscles into corpuscles of minuter size, though apparent in blood from either side of the heart, has seemed more general in that from the left side ; which, it is suggested, is perhaps deserving of notice in connexion with the subject of respiration.

5. "A new Theory of Physics, with its application to important phenomena hitherto considered as ultimate facts." By Thomas Exley, Esq., A.M.

The theory of the author is founded on the two following propositions, namely, that

1. Every atom of matter consists of an immense sphere of force, varying inversely as the square of the distance from the centre ; this force being attractive at all distances, except in a small concentric sphere, in which it is repulsive.

2. Atoms differ from each other in their absolute forces, or in the extent of their spheres of repulsion, or in both these respects.

The author assumes that there are four classes of atoms, the *tenacious*, the *electric*, the *ethereal*, and the *aromatic*. The existence of the last-named class of atoms he infers from the phenomena of vegetation, the miasmata of marshes, the aroma of plants, various noxious effluvia, the disinfecting property of some bodies, and facts relating to animalcules, and their ova, &c. He regards the two propositions which constitute the great principles of his theory, as presenting, at once, a complete explication of the general attributes of matter and body, with the Newtonian laws of motion, not otherwise theoretically explicable.

After pursuing at some length his theoretical speculations, founded

on the above-mentioned propositions, the author concludes his paper with the following sentence :—

“ The several partial theories of philosophers, as far as concerns the leading facts on which they are based, are contained in the simple principles here developed : thus, the theory of universal gravity is here carried out to its ultimatum ; Newton and Boscovich’s theories of alternate attractions and repulsions are derived from facts which depend on the alternate atmospheres, and neutral spaces of tenacious atoms ; Sir Humphry Davy’s theory of electrical energies, Dr. Dalton’s atomic theory, and the theory of the diffusion of gases, Dr. Black’s theory of latent heat, Gay-Lussac’s theory of volumes, Newton’s theory of light, or the theory of the emission of light, the undulatory theory, and very many others are here united in the most simple principles, which are, therefore, strongly recommended to the notice of philosophers.”

6. “ On the Organs of Reproduction, and on the Development of the Myriapoda.” By George Newport, Esq. Communicated by P. M. Roget, M.D., Sec. R.S.

The author commences his paper by stating that great interest attaches to the study of the Myriapoda, from the already known fact that their mode of development, by an increase in the number of segments, is directly the reverse of that of true insects in which the development of the perfect individual is accompanied by an apparent diminution in the number of these parts. He remarks, that although the development of the Myriapoda has already been examined by several eminent naturalists, such as Degeer, Savi, Gervais, and Waga, some of the most important facts relating to it have, nevertheless, escaped their notice, and he proposes, therefore, to lay before the Society the result of his own investigations on this subject, and also his examinations of the organs of reproduction.

The paper is divided into four sections. In the first, the author describes the organs of reproduction, and shows that the parts described by Treviranus, both in the male and female *Julus*, are only the efferential ducts in the male, and the oviduct in the female ; that in the former there are developed, from the sides of the efferential ducts, a large number of sacs, the structure of which he describes, and states his opinion that these are the proper secretory organs in the male, but remarks that he has not been able to follow out the organs to their fullest extent. In the female, he shows that the oviduct described by Treviranus is covered by an immense number of ovisacs, each secreting only a single ovum ; that many hundreds of these exist around the duct, a large proportion of which never reach maturity, being retarded in their growth by the development of others immediately around them ; and that the ova, when matured, are passed from the ovisacs into the duct, and are then all deposited at one time. He adverts especially to the remarkable condition of the female oviduct being a single organ, throughout the greater part of its extent, but having a double outlet ; and shows its analogy in the internal portion of the organs to those of some in-